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Prevalence of self-medication practice with herbal products among non-psychotic psychiatric patients from southeastern Serbia: A cross-sectional study

Nikola M. Stojanović^{a,*}, Ljiljana Samardžić^b, Pavle J. Randjelović^c, Niko S. Radulović^d

^a Faculty of Medicine, University of Niš, Zorana Đinđića 81, 18000 Niš, Serbia

^b Clinic for Mental Health, Clinical Center Niš, 18000 Niš, Serbia

^c Department of Physiology, Faculty of Medicine, University of Niš, Zorana Đinđića 81, 18000 Niš, Serbia

^d Department of Chemistry, Faculty of Science and Mathematics, University of Niš, Višegradska 33, 18000 Niš, Serbia

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ABSTRACT

The aim of this study was to evaluate the usage prevalence of herbal products (HP) and to ascertain the identity, mode and adverse effects of plant taxa used in self-medication practice for anxiety, depression and insomnia in patients with non-psychotic disorders originating from southeastern Serbia. Also, we compared HP users and non-users on the variables of socio-demographic characteristics, information source and origin of HP. The study was done by a face-to-face interview with a trained psychiatrist using a structured questionnaire administered to 136 adult patients suffering from non-psychotic mental disorders. A typical herbal-product user among non-psychotic psychiatric patients from southeastern Serbia is a middle-aged married woman, with a secondary level of education, unemployed and living in an urban area. Non-psychotic psychiatric patients, although not living predominantly in rural areas, were familiar with a variety of ethno-medicines and were often using HP primarily without the consultation of their psychiatrists/physicians. HP stated to be most frequently used for psychiatry-related symptoms included: *Melissa officinalis*, *Mentha × piperita*, *Hypericum perforatum* and *Valeriana officinalis*. The interviewees rarely stated adverse reactions related to the HP usage; however, this should not be generalized, since HP are known to vary in the content of their adverse reaction-causing constituents.

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1. Introduction

Over the past decades there has been a large increase in the number of psychiatric patients suffering from anxiety and mood disorders. One-year prevalence rates were one at every fifteen persons and one at every twenty persons for anxiety and mood disorders, respectively (Steel et al., 2014). According to the ICD-10 Classification of Mental and Behavioral Disorders, these disorders include a variety of diagnoses divided into two major groups: neurotic, stress-related and somatoform disorders (F40-F48) and mood (F30-F39) disorders (WHO, 2010).

For both types of disorders, up to date, there are a number of different drugs available for psychiatrists to prescribe. Among the

most frequently used are those from benzodiazepine (GABA_A allosteric modulators, e.g. diazepam) and selective serotonin reuptake inhibitors (SSRIs, e.g. fluoxetine) groups. These drugs, when applied during a long period of time, may cause numerous side effects that include: muscle relaxation, suicidal ideation, decreased alertness, sexual dysfunction and dependency (O'Brien, 2005; Hu et al., 2004).

According to the World Health Organization, almost 80% of the World population uses herbal products (HP) as a source of primary care (Ekor, 2014). The European Union has a strict definition of herbal medicinal products (65/65/EEC, European Commission, 1965) and this definition and further classification, implemented in the national laws of all EU countries, serve as a guide for HP users. Due to the mentioned side effects of the commonly prescribed drugs for anxiety and mood disorders and the general notion of the safety/benevolence of herbal remedies, the usage of HP is presumed to be widespread, but not well documented. The conclusions on HP usage by such patients/subjects comes from generally oriented surveys that lack the necessary number of

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* Corresponding author.

E-mail addresses: nikola.st90@yahoo.com (N.M. Stojanović), ljiljana.s.samardzic@gmail.com (L. Samardžić), pavleus@gmail.com (P.J. Randjelović), nikoradulovic@yahoo.com (N.S. Radulović).

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relevant examinees (the sample size for this type of patients is insufficient) (Djuv et al., 2013; Kantati et al., 2016; Picking et al., 2011).

The Balkan region, especially the territory of the Republic of Serbia, is rich in plant taxa that are being used for centuries for the treatment of a variety of medical conditions, among them a great number of these are utilized for different mental disorders (Jarić et al., 2015; Zlatković et al., 2014; Šavikin et al., 2013; Jarić et al., 2007). In Serbia, the ethnopharmacological knowledge on HP and their specific uses had been systematized in a single volume (“Lečenje biljem“, Herbal therapy, 1973), by a university professor, dr. Jovan Tucakov, and is still today regarded as the choice literature in this area. Interestingly, almost every home in Serbia possesses a copy of this book, and self-medication practice based on its contents or related ethnopharmacological experience within the family is very common. Professor Tucakov devoted a significant portion of the book to plants used for the treatment of mental disorders, and more than 20 taxa are recognized to beneficially influence the HP user mental health (Tucakov, 1973).

The aim of our study was to contribute to the existing ethnopharmacological knowledge by evaluating the usage prevalence of HP utilization and ascertaining the plant taxa identity and their formulations used, as well as their adverse effects, in self-medication practice for anxiety, depression and insomnia in a sample of patients with non-psychotic disorders originating from southeastern Serbia (Clinical Center Niš). The second aim was to compare HP users and HP non-users on the variables of socio-demographic characteristics, information source for HP and the origin of HP. This was done by a face-to-face interview with a trained psychiatrist using a structured questionnaire.

2. Materials and methods

2.1. Study definition and design

The study was conducted on patients originating from the municipal areas of Niš and the surrounding municipalities (population 373,407) in the Clinical Center Niš at the Clinic for mental health protection. The study was approved by the Ethical Committee of the Medical Faculty, University of Niš (decision No. 12–2307-2/3). In total, 136 adult patients suffering from non-psychotic mental disorders (F30–F39 and F40–F48), treated in the outpatient clinical setting, were randomly selected by the method of consecutive admissions and have signed the informed consent form. The study was designed as a cross-sectional survey in order to acquire the data concerning the usage, formulation and general attitude towards HP in the selected patient population.

2.2. Data collection

Data were collected anonymously, by a trained psychiatrist (Lj. S.) during the regular diagnostic or therapy sessions. The questionnaire consisted of five sections, containing both open and closed forms of questions. The first part consisted of questions related to the socio-demographic characteristics of each individual, while the second one was comprised of questions dealing with the (possible) usage of HP and symptomatology (predominantly anxiety, depressive and insomnia) targeted with HP, as well as the type of HP. The third group of questions dealt with the source of information and the HP origin. In the fourth section, five questions were designed to reveal the formulation of HP used in the treatment. The fifth part was designed to obtain information concerning the attitudes towards the usage of HP concomitantly with standard drugs and the data about side effects observed during the consumption of HP.

2.3. Statistical analysis

The data collected from 136 questionnaires were analyzed using GraphPad Prism (version 5.03, San Diego, CA, USA) and SPSS (version 21.0, IBM Corp, 2012) where the sample size and power analysis showed $\beta < 0.2$ for the number of interviewed patients. The data are shown in frequency distribution tables expressed as percentages, which were further analyzed using Fishers exact and Chi-square tests. The adjusted residual was then calculated and the values of adjusted residual ≥ 2 or ≤ -2 were regarded as statistically significant (Tanaka et al., 2007). Some questions allowed more than a single answer, thus the sum was not always 100%. Patient age is presented as mean \pm SD and in this case Student's t-test or One Way ANOVA were used to estimate the statistical difference among the groups. Probability values (p) less than 0.05 were considered statistically significant.

3. Results

All of the interviewed patients finalized their interviews. There were almost 60% of patients that never used HP for the treatment of their symptoms, mostly because they did not believe in the effectiveness of HP (Table 1). Some 32% of the examinees were either afraid or were ignorant of the existence of HP used in these purposes. Interestingly, only 5% answered that the medication that they were already receiving represented adequate therapy. Only a small portion of the interviewed patients declared that HP were unavailable to them due to a low financial income, which is understandable since HP are readily obtainable from local green markets or pharmacies.

As reported in Table 2, our study groups, HP users and non-users, comprised mainly of married female (78.2 and 66.7%) patients, aged 30–69 years, unemployed (69.1 and 71.6%), with a secondary level of education (69.2 and 45.6%), living in an urban area (80 and 63%). The groups of HP users and non-users were found to be statistically different with respect to the socio-demographic data accumulated, specifically their level of education and place of residence ($p < 0.05$). In the case of education level, the adjusted z value was found to be ≥ 2 for the secondary level in both HP and HP non-users ($z = \pm 2.69$).

The largest number of patients who reported the use of HP suffered from anxiety symptoms, while the patients using HP for depressive symptomatology were the least numerous ones

Table 1

Interview statistics and the frequency of the stated reasons for non-utilization of herbal products (HP).

Characteristics	N (%)
<i>Interviews</i>	
Completed	136 (100)
Declined	0 (0)
<i>Used HP for the treatment of psychiatric non-psychotic symptoms</i>	
Yes	55 (40.4)
No	81 (59.6)
<i>Reason for not consuming HP</i>	
Do not believe in the effectiveness of HP	22 (27.2)
Afraid to use HP	13 (16.05)
Never heard of such HP	13 (16.05)
No one had ever suggested the use of HP	8 (9.9)
Do not need HP	6 (7.4)
Already have adequate medication	4 (4.9)
No answer given	7 (8.6)
Does not have the finances for HP	3 (3.7)
Other ^a	5 (6.2)

^a These include the following answers: have not thought about HP; have not had a chance or, not interested in HP.

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